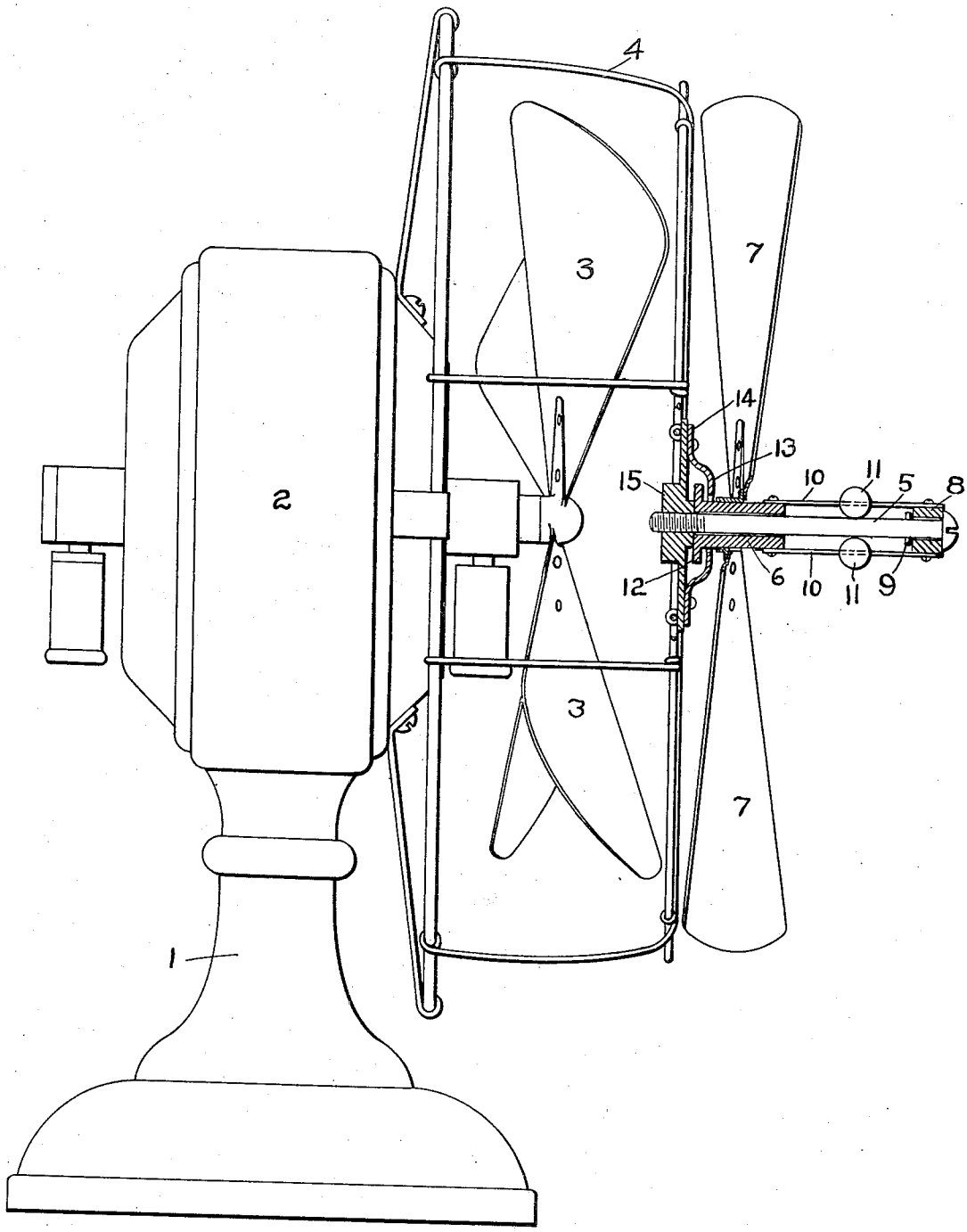
M. M. WOOD.

DEFLECTOR FOR ELECTRIC FANS.

APPLICATION FILED OCT. 10, 1904.

910,760.

Patented Jan. 26, 1909.



Witnesses:

Irving E. Steers.

Helen Orford

Inventor,

Montraville M. Wood.

By Albert G. Davis

Atty

UNITED STATES PATENT OFFICE.

MONTRAVILLE M. WOOD, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

DEFLECTOR FOR ELECTRIC FANS.

No. 910,760. Specification of Letters Patent. Patented Jan. 26, 1909.

Application filed October 10, 1904. Serial No. 227,785.

To all whom it may concern:

Be it known that I, MONTRAVILLE M. WOOD, a citizen of the United States, residing at Schenectady, in the county of Schenectady and State of New York, have invented certain new and useful Improvements in Deflectors for Electric Fans, of which the following is a specification.

This invention relates to portable electric fans, such as are in common use for ventilating offices and dwelling rooms. The fan and its motor are mounted on a standard which usually remains in a fixed position, so that the draft of air from the fan blows in one direction only. Many devices have been proposed for diffusing the blast over a wide area. In some, the motor and fan oscillate to and fro in a horizontal plane, while in others they revolve continuously in such plane. These schemes require more or less mechanism and a special construction of the entire fan, and are correspondingly expensive.

My invention consists in a simple device capable of attachment to the ordinary stationary fan-motor, whereby the blast of air will be widely diffused. It comprises, in brief, a rotatable deflector arranged in front of the fan, with a speed governing device for regulating its rate of rotation.

The accompanying drawing is a side elevation, partly in section, of an electric fan provided with my deflector.

The standard 1, motor 2, fan 3 and wire guard 4 may be of any suitable design.

A bolt 5 is mounted on the guard in line with the air blast and preferably in line with the shaft or spindle of the fan. A hub 6 is rotatably mounted on said bolt and carries one or more deflecting blades 7, set obliquely like the blades of the fan. On the outer end of the bolt is a loose collar 8 which can rotate freely without endwise movement between the head of the bolt and a transverse pin 9. The collar is connected with the hub by one or more flexible strips 10 carrying weights 11. The collar, strips and weights all revolve with the deflector. The inner end of the hub has a flange 12 which lies behind an annular flange 13 on a stationary ring 14 secured to the guard concentric with the bolt.

The operation is as follows: When the fan is running, the blast of air from it strikes the blades 7 and revolves the deflector, thereby scattering a portion of the air currents over a wide area. Those portions of the blast which pass between the adjacent edges of the blades on each side of the deflector will blow straight out as usual. As the speed of the revolving deflector rises, centrifugal force tends to throw the weights 11 out away from the shaft, and as the collar cannot move lengthwise on the bolt, the hub is drawn outwardly by the flexing of the strips 10. When the flange 12 on the hub comes in contact with the stationary flange 13, the friction retards the speed of the deflector. These parts therefore operate as an automatic brake to prevent excessive speed. Within certain limits, the speed can be increased or diminished by screwing the bolt respectively in or out through the screw-threaded boss 15 in which it is mounted, thereby altering the normal distance between the two flanges. This can be done while the fan is running, so that the desired diffusion of air can be adjusted with great nicety.

What I claim as new and desire to secure by Letters Patent of the United States, is,

1. The combination with an electric fan, of a revolving deflector mounted coaxially with the fan and in the line of the air-blast.

2. The combination with an electric fan, of a deflector journaled thereon and arranged to be revolved by the direct action of the air-blast.

3. The combination with an electric fan, of a hub rotatably mounted in the line of the air-blast, and one or more deflecting blades carried by said hub.

4. The combination with an electric fan, of a deflector journaled thereon and arranged to be revolved by the air-blast, and means for regulating the speed of said deflector.

5. The combination with an electric fan, of a deflector arranged to be revolved by the air-blast, and a friction brake for regulating the speed of said deflector.

6. The combination with an electric fan, of a deflector arranged to be revolved by the air-blast, and an automatic speed governor for regulating the speed of said deflector.

7. The combination with an electric fan, of a deflector arranged to be revolved by the air-blast, centrifugal weights operated by said deflector, and a friction-brake for regulating the speed of said deflector operated by said weights.

8. The combination with an electric fan, of a hub mounted to rotate and slide length-

wise, deflecting blades carried by said hub, a rotatable collar, weights connected with said collar and said hub, and a stationary flange with which a portion of said hub comes in contact when said hub is moved lengthwise by the centrifugal action of said weights.

9. The combination with an electric fan, of a hub mounted to rotate and slide lengthwise, deflecting blades carried by said hub, a rotatable collar, flexible strips connecting said collar and hub, weights on said strips, and a stationary flange adjacent to a portion of said hub.

10. The combination with an electric fan having a guard, of a bolt secured to the guard in line with the air-blast, a hub rotatable on said bolt, deflecting blades on said hub, centrifugally-operating weights acting to move the hub lengthwise, a flange on said hub, and a stationary flange adjacent thereto and secured to said guard.

11. The combination with an electric fan having a guard, of a bolt secured to the guard in line with the air-blast, a hub rotatable on said bolt, deflecting blades on said hub, centrifugally-operating weights acting to move the hub lengthwise, a flange on said hub, a stationary flange adjacent thereto and secured to said guard, and means for adjusting the normal distance between said flanges.

12. The combination with an electric fan having a guard provided with a screw-threaded boss, of a bolt screwing into said boss, a deflector rotatable and movable lengthwise on said bolt and having a flange, a stationary flange on the guard adjacent to the deflector-flange, and a device responsive to speed changes for moving said deflector lengthwise, and bringing said flanges into contact, the normal distances between said flanges being adjustable by screwing the bolt in or out.

In witness whereof, I have hereunto set my hand this 7th day of October, 1904.

MONTRAVILLE M. WOOD.

Witnesses:
HELEN ORFORD,
G. C. HOLLISTER.